

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P146590

Luminaire Tested: **LDRL-T3-E02-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146590
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33695)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T3-E02-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (42) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5971.6 lumens
Efficiency: N/A
Efficacy: 114.6 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

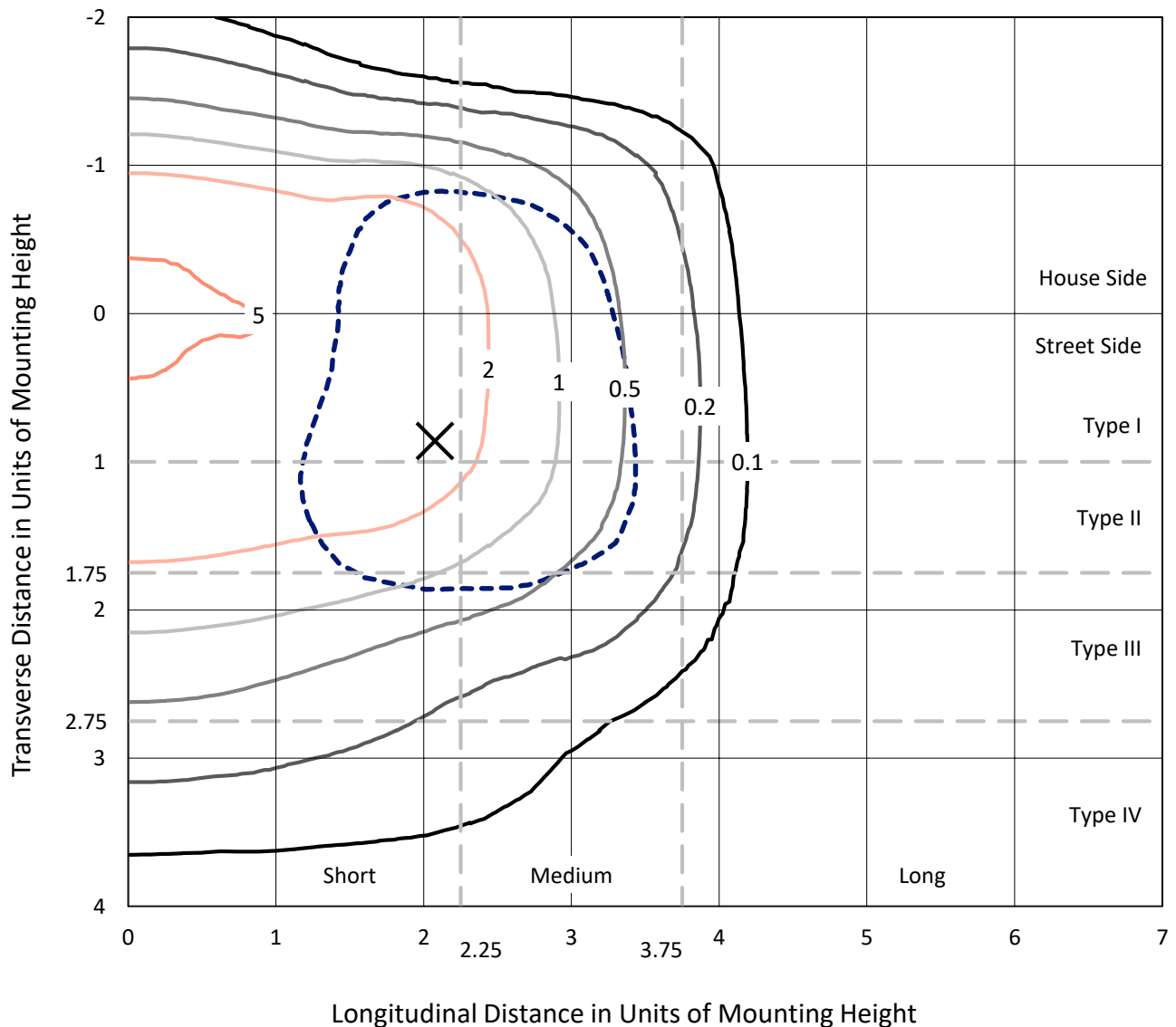
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

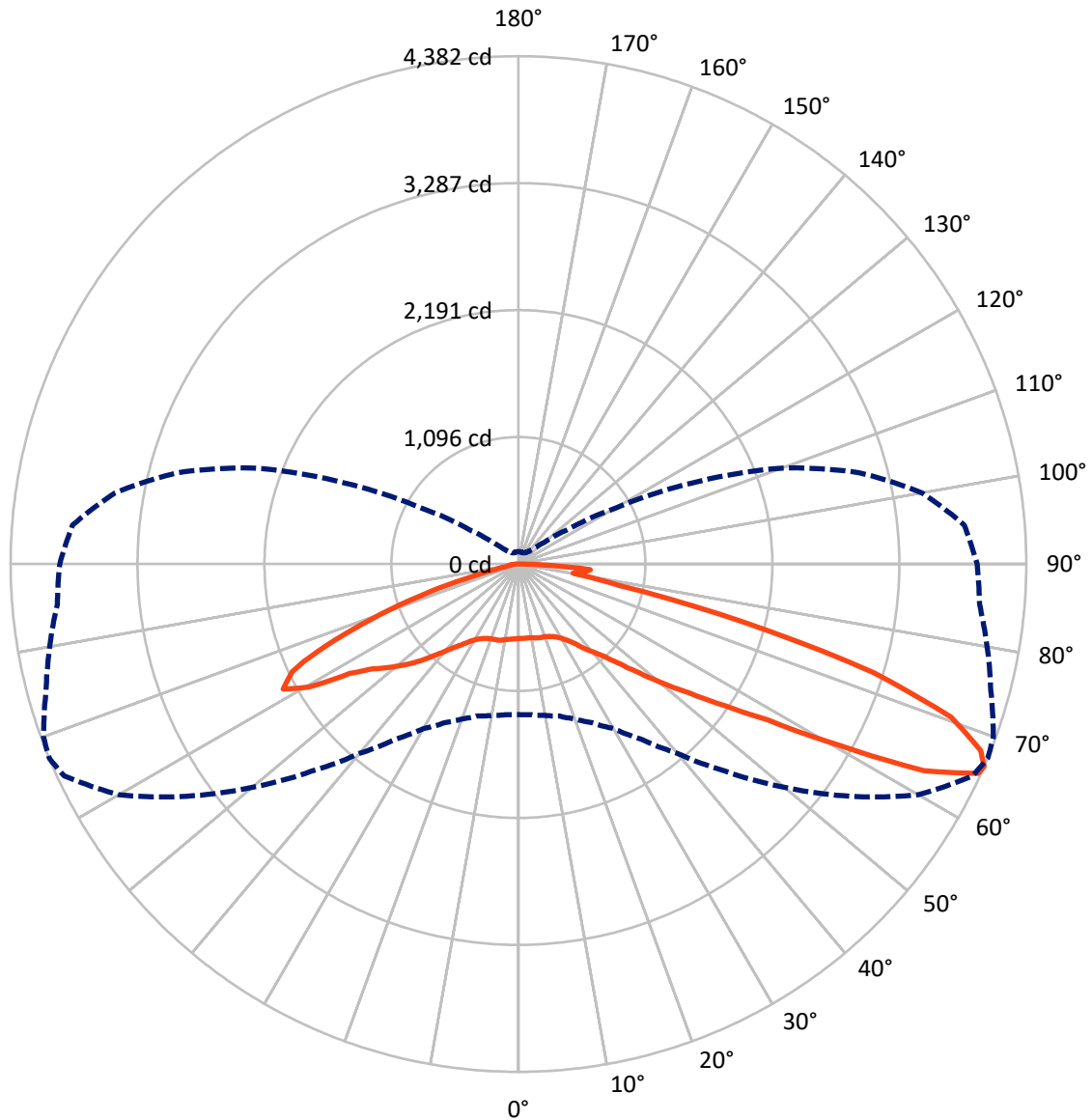
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.4 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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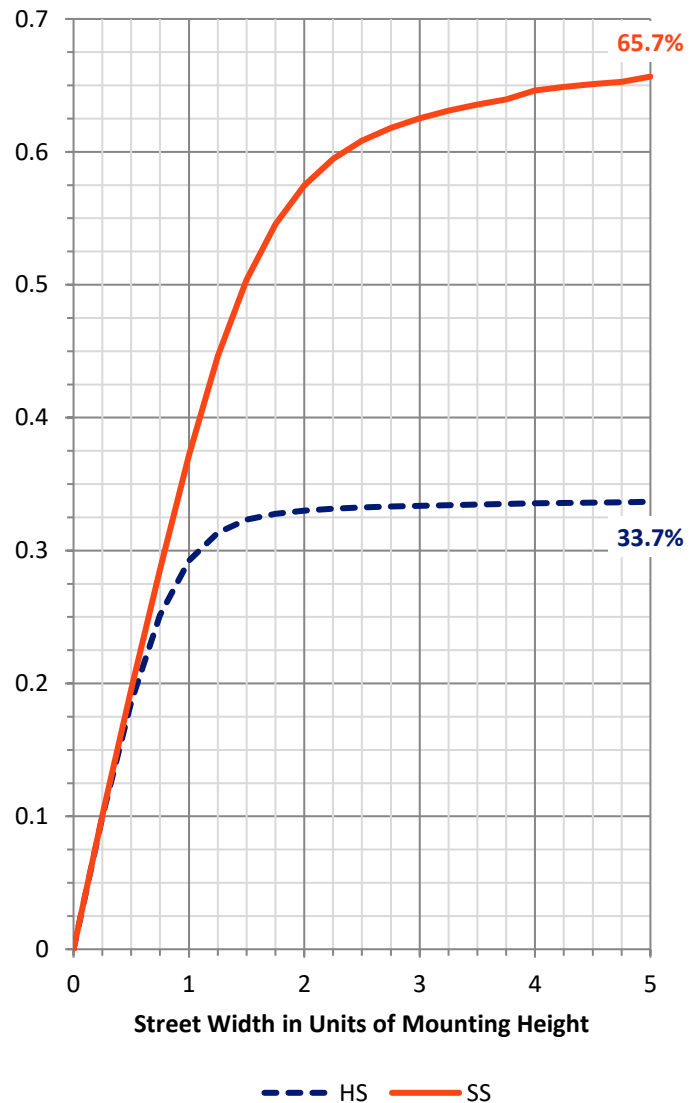
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2028.8	0.0	2028.8
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	3942.9	0.0	3942.9
	% Fixture	66.0	0.0	66.0
Total	Lumens	5971.6	0.0	5971.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.8	1.0
10°-20°	183.0	3.1
20°-30°	314.5	5.3
30°-40°	505.9	8.5
40°-50°	833.8	14.0
50°-60°	1307.1	21.9
60°-70°	1808.9	30.3
70°-80°	818.6	13.7
80°-90°	138.1	2.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	5971.6	100.0
0°-180°	5971.6	100.0



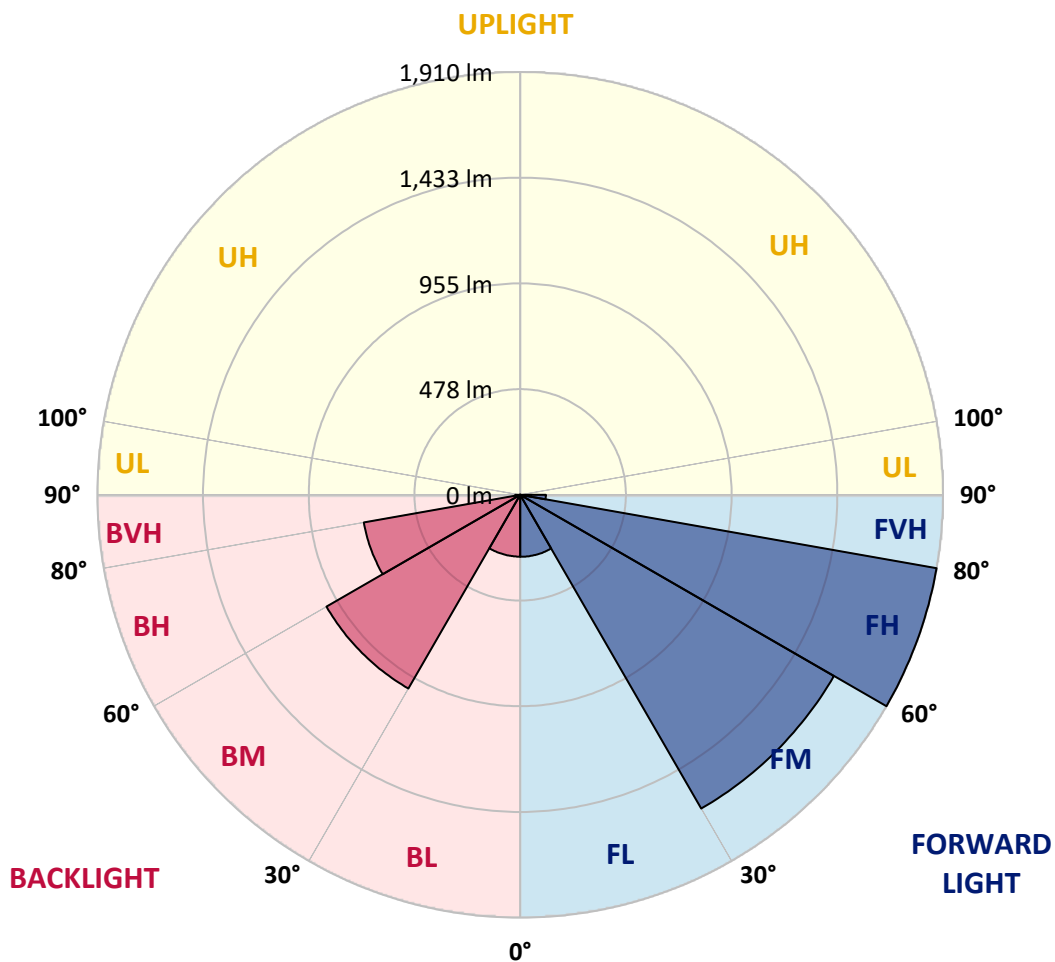
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	280.1	4.7			
FM	(30°-60°)	1636.5	27.4			
FH	(60°-80°)	1910.3	32.0			G2/5000
FVH	(80°-90°)	116.1	1.9			G2/225
BL	(0°-30°)	279.2	4.7	B1/500		
BM	(30°-60°)	1010.3	16.9	B2/2500		
BH	(60°-80°)	717.2	12.0	B2/1000		G2/1000
BVH	(80°-90°)	22.0	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8
2.5°	642.0	641.6	641.2	641.2	640.8	641.2	641.6	642.0	641.6	642.0	641.6
5°	640.8	640.8	640.4	640.4	640.4	640.4	640.8	641.2	640.8	641.6	640.8
7.5°	635.6	638.0	637.2	638.0	638.8	639.6	640.0	640.8	642.0	642.8	642.0
10°	628.8	630.0	630.4	631.2	632.8	634.8	636.4	638.4	641.2	642.0	642.8
12.5°	616.4	618.0	619.2	620.8	623.2	626.4	629.2	632.4	637.2	640.4	643.2
15°	607.2	609.2	609.6	611.6	614.0	617.6	621.2	626.0	632.4	638.0	643.6
17.5°	613.2	614.0	613.2	613.2	614.0	615.6	618.4	622.4	629.2	636.0	642.8
20°	631.2	631.2	630.4	630.0	629.2	627.6	627.2	626.8	631.2	636.4	642.4
22.5°	648.4	648.4	648.0	649.6	649.2	649.2	648.0	646.0	644.0	643.2	647.2
25°	659.2	660.8	661.6	664.0	665.6	668.0	668.8	668.4	665.6	660.8	659.6
27.5°	676.8	678.0	678.8	681.6	684.8	687.6	690.4	694.0	694.0	689.6	683.6
30°	710.8	709.2	710.0	710.8	713.6	717.6	721.2	726.0	728.4	726.8	718.8
32.5°	742.4	744.0	744.8	747.2	750.0	756.0	760.4	766.0	771.2	772.0	768.0
35°	788.8	788.0	786.8	795.2	798.4	805.2	810.4	818.4	822.4	826.0	823.6
37.5°	862.0	859.6	858.0	860.4	864.8	869.2	876.8	882.8	889.6	898.0	895.2
40°	965.6	970.4	963.6	966.8	970.4	960.4	967.2	972.8	984.4	984.8	984.4
42.5°	1100.4	1104.0	1102.4	1104.4	1098.0	1094.8	1092.0	1094.8	1109.2	1107.2	1097.6
45°	1235.2	1240.4	1239.2	1240.0	1252.4	1247.2	1251.6	1252.4	1267.2	1263.2	1256.0
47.5°	1350.4	1359.2	1361.2	1368.4	1385.2	1398.8	1417.6	1431.6	1438.8	1443.6	1449.2
50°	1441.6	1448.0	1459.2	1477.2	1501.6	1525.2	1567.6	1595.2	1620.4	1638.0	1656.0
52.5°	1502.0	1509.2	1526.4	1553.6	1588.8	1632.0	1681.6	1739.2	1792.4	1823.6	1850.4
55°	1526.8	1534.0	1555.2	1590.8	1637.6	1692.8	1764.0	1845.2	1916.0	1987.6	2028.8
57.5°	1512.4	1520.4	1544.8	1584.8	1641.2	1713.6	1802.0	1901.6	2005.2	2113.6	2196.4
60°	1470.0	1477.2	1504.8	1546.4	1610.8	1692.4	1798.4	1923.2	2068.8	2229.6	2386.8
62.5°	1411.6	1422.4	1446.8	1489.2	1553.2	1642.4	1763.2	1925.6	2134.4	2393.6	2699.6
65°	1337.2	1345.2	1366.8	1400.4	1470.8	1564.0	1691.6	1890.4	2163.2	2530.8	2967.6
66°	1298.8	1306.4	1326.4	1358.0	1422.4	1512.0	1639.6	1843.2	2131.2	2530.0	2996.0
67.5°	1231.2	1234.8	1249.2	1280.4	1322.4	1402.8	1521.2	1712.0	1995.6	2423.2	2916.8
70°	1032.8	1038.0	1052.0	1068.0	1083.6	1112.4	1195.2	1321.2	1548.0	1958.0	2428.8
72.5°	714.4	722.4	737.6	767.2	791.6	828.0	860.4	902.4	977.6	1262.4	1737.6
75°	516.4	519.2	541.6	593.6	642.8	715.6	780.0	800.4	774.8	770.4	1020.8
77.5°	308.0	312.0	344.4	396.8	448.0	546.8	678.8	780.8	837.2	817.2	772.8
80°	129.6	135.2	154.4	168.0	210.4	293.2	423.6	583.6	732.4	824.0	803.2
82.5°	41.6	48.4	57.2	69.2	81.6	109.2	169.2	253.2	400.0	596.4	733.2
85°	15.2	15.6	21.6	30.0	33.2	38.4	49.2	76.0	135.2	223.6	416.0
87.5°	6.0	7.2	8.4	11.6	12.0	12.4	14.0	18.0	17.6	15.2	78.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8
2.5°	642.0	642.8	642.4	642.8	642.8	642.0	642.0	643.6	642.4	643.2	643.2
5°	641.6	642.4	642.0	642.8	642.8	642.4	642.4	644.8	644.4	645.6	646.4
7.5°	643.2	643.6	643.2	643.2	644.4	644.0	644.4	645.2	647.2	649.2	650.8
10°	645.2	646.0	647.2	647.6	649.2	648.8	650.0	651.2	653.2	655.2	657.2
12.5°	648.0	650.4	654.0	654.8	656.4	657.6	659.6	660.8	662.4	665.6	668.0
15°	650.4	654.8	659.2	660.8	662.4	664.0	666.0	667.2	670.0	672.8	675.6
17.5°	651.2	656.4	662.0	664.0	665.6	668.4	670.8	673.2	676.4	680.0	683.2
20°	651.6	658.8	666.0	668.4	672.0	676.0	680.0	682.0	686.4	690.8	693.6
22.5°	655.2	664.0	674.0	678.4	682.0	689.2	694.4	697.6	702.8	706.4	707.6
25°	665.2	674.4	686.4	693.2	699.2	709.6	716.0	722.0	724.8	729.6	728.4
27.5°	683.2	690.4	706.0	715.2	722.8	736.4	748.8	754.4	758.8	761.2	758.4
30°	714.0	716.8	734.0	745.2	758.0	779.2	792.8	800.0	805.6	806.0	798.8
32.5°	760.0	755.6	770.8	786.8	803.6	829.2	847.6	855.2	859.6	860.0	844.0
35°	822.4	814.8	827.6	843.2	864.0	897.6	920.8	929.6	936.4	933.2	909.6
37.5°	901.2	900.8	906.8	926.8	950.4	993.6	1018.0	1022.8	1022.4	1012.8	977.2
40°	988.8	981.6	982.4	996.8	1024.0	1080.8	1114.8	1122.8	1120.0	1106.0	1059.6
42.5°	1099.2	1096.0	1085.2	1092.8	1118.0	1187.2	1228.4	1236.4	1238.8	1215.6	1160.8
45°	1254.0	1251.2	1227.2	1228.8	1247.2	1320.0	1362.8	1376.0	1376.4	1354.4	1283.2
47.5°	1441.6	1439.2	1411.2	1403.2	1412.4	1477.2	1530.4	1533.2	1534.0	1503.6	1429.6
50°	1654.4	1647.6	1626.4	1618.0	1607.2	1678.8	1721.6	1721.2	1716.8	1683.2	1600.0
52.5°	1860.0	1875.2	1867.2	1850.8	1851.2	1902.8	1943.2	1920.8	1923.6	1891.6	1796.0
55°	2079.6	2118.4	2147.6	2153.6	2150.8	2177.2	2199.6	2159.6	2144.8	2139.6	2038.0
57.5°	2312.8	2412.0	2502.0	2539.6	2525.2	2573.6	2593.6	2552.0	2552.8	2593.6	2506.0
60°	2624.4	2874.8	3101.6	3172.0	3204.8	3284.8	3249.2	3246.8	3309.6	3362.4	3200.0
62.5°	3097.2	3512.0	3874.0	3926.4	3952.8	3970.8	3954.8	3911.2	3976.0	3982.4	3732.0
65°	3455.6	3942.4	4292.4	4358.0	4353.2	4261.6	4172.8	4085.6	4084.8	4020.8	3698.4
66°	3494.4	3983.2	4324.4	4382.4	4361.2	4220.0	4107.2	3994.0	3957.6	3861.6	3534.4
67.5°	3409.6	3912.0	4250.8	4302.8	4257.6	4042.8	3889.2	3736.0	3681.2	3547.6	3214.0
70°	2914.8	3432.4	3885.6	3960.8	3907.2	3622.0	3394.4	3226.0	3076.8	2945.2	2670.0
72.5°	2260.0	2647.2	3126.8	3205.2	3209.6	2986.4	2730.0	2568.4	2394.8	2262.8	2056.4
75°	1482.4	1775.2	2038.8	2012.4	2020.0	1844.4	1691.6	1557.2	1400.0	1296.0	1197.6
77.5°	866.4	971.2	947.2	881.6	826.4	649.6	464.8	319.2	278.4	290.4	327.6
80°	753.2	694.4	543.6	478.0	434.8	295.2	158.8	112.0	98.4	99.6	105.6
82.5°	810.8	841.2	690.4	568.4	495.6	347.6	186.8	93.2	67.2	78.4	86.4
85°	629.2	800.8	738.4	624.0	524.8	369.6	190.8	59.2	40.0	53.6	67.6
87.5°	179.2	283.6	226.8	200.4	161.6	110.4	45.6	23.6	21.6	28.0	38.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8	642.8
2.5°	643.6	643.6	644.8	645.2	645.6	645.6	646.4	646.4	646.8	648.4	648.0
5°	647.6	648.8	650.4	651.2	652.4	652.8	654.0	654.0	655.2	656.4	656.0
7.5°	652.4	653.6	654.8	656.0	657.2	658.8	658.4	658.0	657.6	656.8	656.0
10°	659.2	660.4	661.6	661.2	660.4	659.6	656.4	652.8	651.2	648.0	645.6
12.5°	670.4	671.6	670.4	667.2	662.8	657.6	650.8	644.8	641.2	636.4	633.6
15°	678.8	680.0	677.6	672.0	664.8	658.0	648.8	641.2	634.8	629.6	625.6
17.5°	685.2	684.4	679.2	672.8	665.2	659.6	651.2	642.8	635.2	628.0	622.4
20°	694.4	690.0	682.4	674.4	666.8	662.0	655.2	647.6	639.6	629.2	622.0
22.5°	706.4	698.4	688.4	680.4	673.2	668.4	661.6	654.4	646.8	634.8	624.8
25°	723.6	710.8	699.2	690.8	684.4	679.6	671.2	663.6	655.2	643.2	630.4
27.5°	747.6	729.2	717.2	708.8	702.4	696.8	686.0	676.8	666.0	654.0	638.8
30°	778.8	756.4	743.2	736.0	729.2	721.2	709.6	696.0	682.0	666.0	649.6
32.5°	817.6	792.4	780.0	772.8	764.0	753.2	738.0	720.0	699.2	678.0	657.6
35°	872.8	844.0	830.4	818.0	805.2	789.2	766.4	740.4	712.8	685.2	660.0
37.5°	927.6	900.8	884.0	871.2	851.2	825.2	793.6	757.6	720.8	685.6	655.2
40°	1005.2	974.0	954.4	931.6	899.2	858.8	812.8	764.4	718.8	676.4	640.4
42.5°	1100.4	1064.8	1035.6	994.4	944.0	885.6	822.0	760.4	704.8	656.0	616.4
45°	1220.8	1174.4	1125.6	1060.8	983.6	902.0	821.6	746.4	680.8	625.6	586.4
47.5°	1361.2	1296.0	1214.0	1115.2	1009.6	906.0	808.8	721.2	644.8	584.0	538.8
50°	1505.6	1411.2	1294.8	1157.2	1022.8	896.0	780.4	680.0	597.6	528.4	479.6
52.5°	1683.6	1537.2	1368.0	1185.6	1017.2	866.4	733.2	622.0	534.0	466.4	410.4
55°	1895.6	1682.0	1437.6	1201.2	992.4	813.2	661.6	546.0	453.6	392.0	341.6
57.5°	2246.4	1908.8	1556.4	1224.4	943.6	734.0	574.4	454.8	368.0	315.6	275.2
60°	2851.2	2374.0	1807.6	1281.6	876.0	621.2	463.6	356.4	284.8	242.8	214.4
62.5°	3273.2	2656.0	1942.8	1262.0	761.2	489.2	342.8	254.8	207.6	180.0	160.8
65°	3191.2	2544.8	1780.0	1072.0	596.4	346.0	228.0	172.4	145.6	128.4	118.8
66°	3044.0	2422.0	1656.0	962.4	517.2	288.4	188.0	142.8	125.2	112.8	106.4
67.5°	2775.6	2167.6	1433.2	772.4	387.2	212.8	142.8	111.2	101.6	95.2	90.8
70°	2298.0	1714.0	986.8	456.4	204.8	119.2	90.8	82.0	77.6	74.8	74.4
72.5°	1762.0	1229.6	570.8	220.8	109.6	79.2	69.6	66.4	64.8	64.0	64.0
75°	1088.4	693.6	255.2	110.8	75.6	64.8	60.4	58.8	58.4	58.4	58.4
77.5°	382.8	241.6	114.4	81.2	66.4	58.4	54.8	54.0	54.8	54.8	54.8
80°	105.6	93.2	82.8	72.0	60.0	54.0	50.8	50.4	52.0	52.4	50.8
82.5°	82.4	77.6	70.8	64.4	54.8	49.2	47.6	48.4	49.2	48.0	45.6
85°	70.4	67.2	49.6	49.6	44.4	42.8	42.4	43.2	42.8	39.6	36.4
87.5°	40.0	35.2	26.8	29.2	31.2	32.0	26.8	28.8	28.4	25.2	23.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	642.8	642.8	642.8	642.8	642.8
2.5°	648.8	648.8	649.6	649.6	649.2
5°	656.8	656.8	658.0	657.2	657.6
7.5°	655.2	653.6	653.6	652.8	652.4
10°	644.0	641.2	639.6	640.4	639.2
12.5°	631.2	628.8	627.2	626.8	626.4
15°	623.2	620.4	619.2	618.4	618.4
17.5°	618.8	615.6	614.0	612.8	612.4
20°	616.8	612.8	610.4	609.2	608.4
22.5°	617.6	612.8	609.6	608.0	607.2
25°	620.8	614.8	610.8	608.8	607.6
27.5°	626.4	618.4	614.0	611.2	609.6
30°	633.2	622.0	615.6	611.6	610.0
32.5°	637.6	622.4	614.4	608.4	606.8
35°	636.8	618.0	607.6	600.0	598.8
37.5°	628.8	606.4	593.6	583.6	582.4
40°	611.6	588.8	574.0	564.0	561.6
42.5°	587.6	564.0	548.0	538.8	535.6
45°	552.4	523.6	508.8	501.2	496.8
47.5°	502.8	475.6	459.2	452.8	447.2
50°	446.4	416.4	404.4	397.2	390.8
52.5°	380.0	354.4	345.2	338.4	333.2
55°	315.6	297.6	286.8	279.6	280.0
57.5°	253.6	242.8	236.8	229.2	230.0
60°	199.6	190.4	190.4	185.6	184.0
62.5°	152.4	148.8	147.6	146.0	143.2
65°	115.6	115.6	116.0	116.0	114.4
66°	104.0	105.2	106.8	106.8	104.8
67.5°	90.0	91.6	93.2	94.0	94.0
70°	74.4	76.4	77.2	78.0	77.6
72.5°	65.2	66.8	66.8	67.2	66.4
75°	59.2	60.0	60.4	59.6	59.2
77.5°	54.8	55.2	54.8	54.4	54.0
80°	49.6	49.2	48.0	46.4	46.0
82.5°	42.8	41.2	40.4	38.0	37.6
85°	34.4	32.4	30.8	27.6	26.0
87.5°	22.8	22.0	20.8	15.2	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)